

**Work Order ID 63850**

Tuesday, November 16, 2010 2:28:41 PM

Page 1

Item ID: D350-636-012

Accept

Revision ID:

Item Name: Skidtube RH

Start Date: 11/16/2010 Start Qty: 1.00

Required Date: 11/30/2010 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date:

10-11-16

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

IIN-D350-636

H

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-012 CHG 006

8/10/12/08

44 BG 10-12-7

B63850

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 &amp; DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.  
\*\*\*SECOND SIDE\*\*\*

8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail L to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

JB

10/11/10

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Run Start



Stop



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11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left  
from bending as per QSI 004

A/R Aluminum Rod batch: ☐ M115778

BE 10/11/23

12-Grind welds flush as per Dwg D2750

BB 10/11/24

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

E 10/14/24

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S 10/14/24

PA

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Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1

B10/11/24

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1

0

DE 10/11/24

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Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D2750.

3-Open float holes to .500" (4 per Side)

4-Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6-Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ Sikaflex-291 batch: 116040 ☐ ☐ ☐  
exp. date: 11-9-30

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9)

A/R ☐ Aluminum Rod batch: M15778

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

11-Spot face ground handling holes section (total of 4 places per side) as per

BB

10/16/24

BE 10/11/25

BE 10/11/26

BE 10/11/25

BE 10/11/25

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Customer:

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

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dwg D2750

12-Deburr holes

BE 10/11/25

0.00

8/11/26

0.00

170



QC

Quality Control

Memo

QC10- Inspect visual per QSI004- ground welds

QC5- Inspect part completeness to step on W/O

0.00

0.00

180



QC

Quality Control

Memo

(41)

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Reference:						
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start
	QC:	Date:	SPC (Y/N):	Date:		Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  HandFinish Hand Finishing	Pressure Wash per QSI005 4.3  Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.	0.00 0.00		10/11/29		1	10		
200  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum  Memo START TIME: 8:30 OVEN TEMPERATURE: 320° FINISH TIME: 9:00	0.00 0.00				1		10/10-11-30	
210  QC Quality Control	QC3- Inspect Part Finish  Memo Inspect for foreign object per QSI 024	0.00 0.00		10/12/09		1	0		

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QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

220

0.00



HandFinish

Hand Finishing

HandFinishing

Memo

Install inserts as per dwg D2750

0.00

=> M 10/12/07

1

0

230

0.00



HandFinish

Hand Finishing

HandFinishing

Memo

0.00

=> M 10/12/07

1

0

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3"

batch: N/A

3-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: M115114

EXP DATE: 11/06

4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube

A/R 55-o-ring lube batch: M114189

5-Coat all exposed fasteners with "LPS Procyon"

batch: M114596

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QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
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Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/12/08

AC

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

10/12/08

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/12/08

AC

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Stop

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270

0.00



Packaging

0.00

Packaging

Memo

72

Packaging

Package as per PPP D350-636-012

New

280

0.00



QC21- Final Inspection - Work Order Release

0.00

QC

Memo

Quality Control

10/12/08

mf  
10-12-08

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Page 1

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Parent Item: D350-636-012

Parent Item Name: Skidtube RH



Start Date: 11/16/2010

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Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ  
 IPP Rev: J 06-03-29 As per Rev D EC  
 IPP Rev: K 06-07.13 As per dsi9343 EC  
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC  
 IPP Rev: M 08-04-22 update steps 4,13 DD verified by: EC  
 IPP Rev: N 08-09-23 revF as per dwg DD verified by: ec IPP Rev: O  
 10.06.22 revise seq110 DD verf: EC IPP Rev: P 10.10.01 as  
 per IIN revH DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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ALS4-1032-225

Purchased

No

220

Each

4,520.000

38

38



10/10/07

Insert

Location

Loc Qty

Loc Code

PK011

4520

110768

4520

x38

AN3C5A

Purchased

No

230

Each

888.0000

34

34



10/12/07

Bolt

Location

Loc Qty

Loc Code

ST350

878

114330

11

115015

13

115371

100

115422

100

115594

282

115835

372

x34

ST351

10

113121

10

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AN3C6A Purchased No 230 Each 245.0000 4 4  
  
 BOLT

Location Loc Qty Loc Code

ST351 245

111982 245

AN6C44A Purchased No 230 Each 119.0000 4 4  
  
 BOLT

Location Loc Qty Loc Code

FG 2

103964 2


ST344 117

111649 2

114653 1

114941 64

115936 50

AN8C35A Purchased No 230 Each 54.0000 1 1  
  
 BOLT


Location Loc Qty Loc Code

ST346 54

114442 5

115188 22

115960 27

AN960C10L NAS1149C0332 Purchased No 230 Each 25.0000 38 38  
  
 washer

Location Loc Qty Loc Code

ST245 25

107534 25

1115832

x38

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Required Qty: 1.00

AN960C816L

Purchased No

230

Each

0.0000

1

1



XNAS1149C08332R / M114915



x1 11 10/12/07

WASHER

D2745

Manufactured No

230

Each

265.0000

8

8



11 10/12/07

Bushing

## Location

## Loc Qty

## Loc Code

ST023

265

52311

5

59112

4

61203

44

61988

104

63315

108

y8

D3488-042

Manufactured No

230

Each

24.0000

1

1



11 10/12/07

Blade Fitting Assembly, RH

## Location

## Loc Qty

## Loc Code

FP008

15

59643

5

62003

10

FP18

9

61690

9

x1

D3492-041

Manufactured No

230

Each

76.0000

8

8



11 10/12/07

Plug Assembly

## Location

## Loc Qty

## Loc Code

FP013

76

59114

1

61987

14

62210

61

VB

Tuesday, November 16, 2010 2:28:45 PM

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Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012


Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010


Start Qty: 1.00

Required Qty: 1.00

D3492-043      Manufactured      No      230      Each      85.0000      8      8  
  
 Plug Assembly


Location	Loc Qty	Loc Code
FP	2	
54682	2	
FP013	83	
59117	1	
59190	4	
<u>62663</u>	78	

24 10/12/07

D3535-25      Manufactured      No      230      Each      21.0000      1      1  
  
 Wearshoe


Location	Loc Qty	Loc Code
FP18	21	
<u>62033</u>	7	
62233	14	

24 10/12/07

D3536-25      Manufactured      No      230      Each      4.0000      1      1  
  
 Gasket

Location	Loc Qty	Loc Code
FP12	4	
<u>61707</u>	4	

24 10/12/07

D3537-1      Manufactured      No      230      Each      18.0000      3      3  
  
 Wearpad

Location	Loc Qty	Loc Code
FP017	18	B63545
62661	9	
63313	9	

24 10/12/07

24 10/12/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012



Parent Item Name: Skidtube RH

Start Date: 11/16/2010



Required Date: 11/30/2010

Start Qty: 1.00



Required Qty: 1.00

D3631-1	Manufactured	No	230	Each	281.0000	8	8
							<u>11/12/07</u>
Washer							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST072	281	
60755	81	<u>y8</u>
63647	200	

D3672-1	Manufactured	No	230	Each	665.0000	4	4
							<u>11/12/07</u>
Phenolic Washer							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST077	665	
42329	10	<u>y8</u>
52505	655	

D3791-1	Manufactured	No	230	Each	19.0000	1	1
							<u>11/12/07</u>
Wearplate							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP17	19	
61702	7	<u>x1</u>
62239	12	

D3793-1	Manufactured	No	230	Each	16.0000	1	1
							<u>11/12/07</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP18	16	
59151	1	
59630	1	
61244	1	
61710	13	<u>x1</u>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012



Parent Item Name: Skidtube RH

Start Date: 11/16/2010



Required Date: 11/30/2010

Start Qty: 1.00



Required Qty: 1.00

D3793-3      Manufactured      No      230      Each      13.0000      1      1  
            10/12/07  
 Wearshoe



Location	Loc Qty	Loc Code
FP18	12	
61711	12	
FP19	1	
57947	1	

D3794-1      Manufactured      No      230      Each      20.0000      1      1  
            10/12/07  
 Gasket

Location	Loc Qty	Loc Code
FP010	20	
61704	20	

D3794-3      Manufactured      No      230      Each      25.0000      1      1  
            10/12/07  
 Gasket

Location	Loc Qty	Loc Code
FP10	24	
60826	1	
61712	23	
FP18	1	
59153	1	

MS21043-6      Purchased      No      230      Each      618.0000      4      4  
            10/12/07  
 NUT

Location	Loc Qty	Loc Code
ST301	618	
112314	618	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

87.0000

1

1



10/12/07

NUT

Location

Loc Qty

Loc Code

ST303

87

113845

5

114934

3

115594

29

115884

50

X1

NAS1611-010

Purchased

No

230

Each

309.0000

8

8



10/12/07 PTO =>

O-RING

Location

Loc Qty

Loc Code

FP

309

110715

100

110915

159

115589

50

NAS1611-013

Purchased

No

230

Each

228.0000

8

8



10/12/07

O-RING

Location

Loc Qty

Loc Code

FP

228

115460

100

115589

28

115812

100

X8

W/O: 63850		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/12/07	230	Replace NAS1611-010 "O" rings for D2594-3 / M61762 "O" rings	HL	10/12/07	x8		S 12/6/07

Part No: D350-636-012 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 63850

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased

No

250

Each

45.0000

2

2



BOLT



10/12/10

Location

Loc Qty

Loc Code

ST345

45

113558

1

114653

4

115723

40

AN960JD816

Purchased

No

250

Each

123.0000

2

2



1/2" washer, Alum



10/12/10

Location

Loc Qty

Loc Code

ST348

123

106043

123

D2741

Manufactured

No

250

Each

25.0000

1

1



Blade, 350 Skidtube



10/12/10

Location

Loc Qty

Loc Code

ST466

25

60210

25

D3493-1

Manufactured

No

250

Each

36.0000

2

2



Washer



10/12/10

Location

Loc Qty

Loc Code

ST062

36

61672

36

Tuesday, November 16, 2010 2:28:45 PM

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3532-1

Manufactured No

250

Each

47.0000

2

2



Spacer

Location

Loc Qty

Loc Code

ST065

47

61673

5

62218

42

D3672-13

Purchased

No

250

Each

792.0000

2

2



Phenolic Washer

Location

Loc Qty

Loc Code

ST077

792

54363

792

MS21083C8

Purchased

No

250

Each

87.0000

1

2



NUT

Location

Loc Qty

Loc Code

ST303

87

113845

5

114934

3

115594

29

115884

50

D2600-3-BENT

Manufactured

No

110

Each

13.0000

1

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

13

61634

4

62594

8

62764

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D2744

Manufactured No

110

Each

39.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG

6

59198

6

ST

33

62715

33

1

BE 10/11/23

D2739

Manufactured No

160

Each

12.0000

1

1



350 I Beam

Location

Loc Qty

Loc Code

LG

12

62563

8

62688

4

1

BE 10/11/24

D2743

Manufactured No

160

Each

150.0000

8

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

150

50281

10

57953

2

59111

31

61844

107

5

3

BE 10/11/25

D3490-3

Manufactured No

160

Each

39.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

39

60294

1

62668

38

4

BE 10/11/25

Tuesday, November 16, 2010 2:28:45 PM

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Tuesday, November 16, 2010 2:28:45 PM

Work Order ID: 63850



Parent Item: D350-636-012



Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3490-1

Manufactured No

160

Each

95.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

95

59424

3

61217

2

62450

90

4 BE 10/11/25

Tuesday, November 16, 2010 2:28:45 PM

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Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

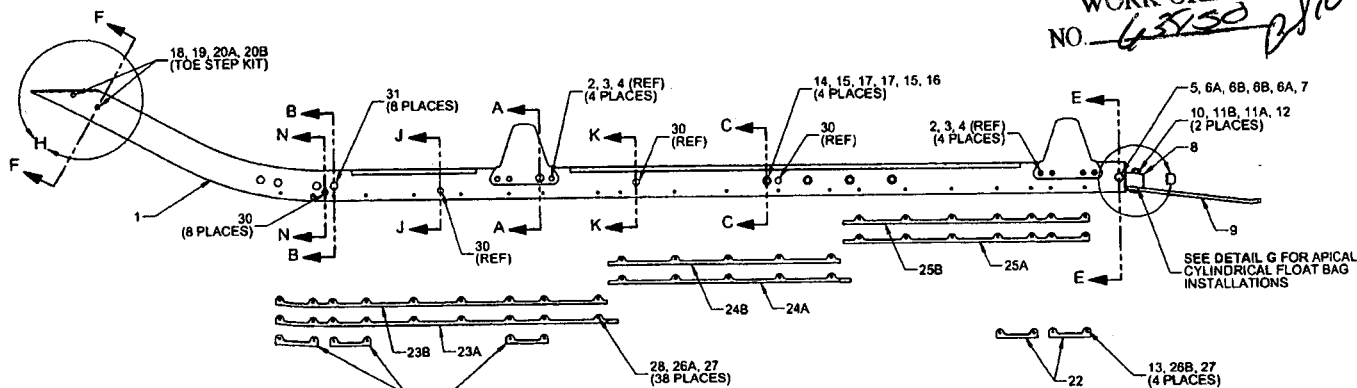
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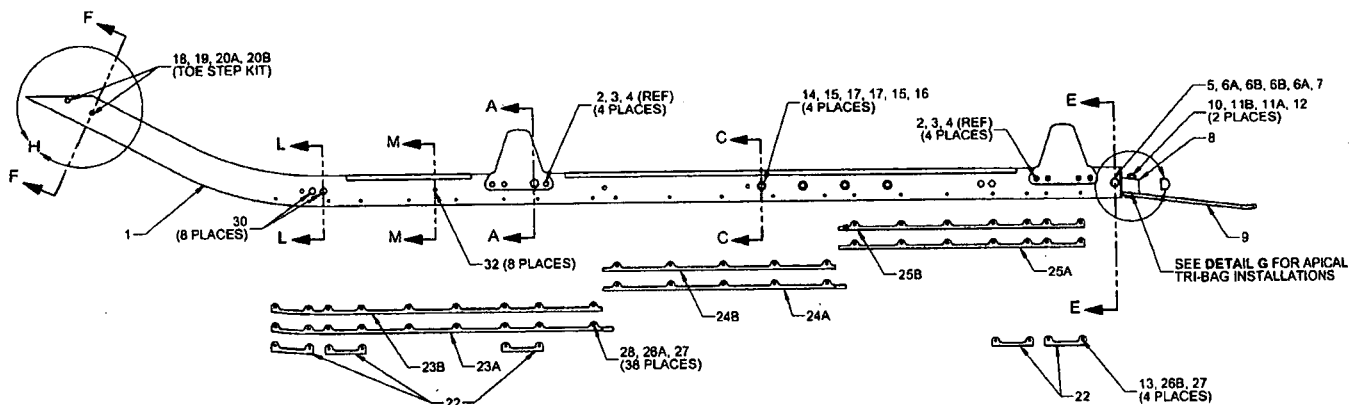
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 6350 *2/10-64*



**D350-636-011/-012 ASSEMBLY**  
(Aerazur / Apical Cylindrical)



**D350-636-013/-014 ASSEMBLY**  
(Aircruiser / Apical Tri-Bag)

**Figure 1: D350-636-011/-012/-013/-014 SKIDTUBE ASSEMBLY AT CHG 003**

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Revision: **H**  
Date: 10.07.25

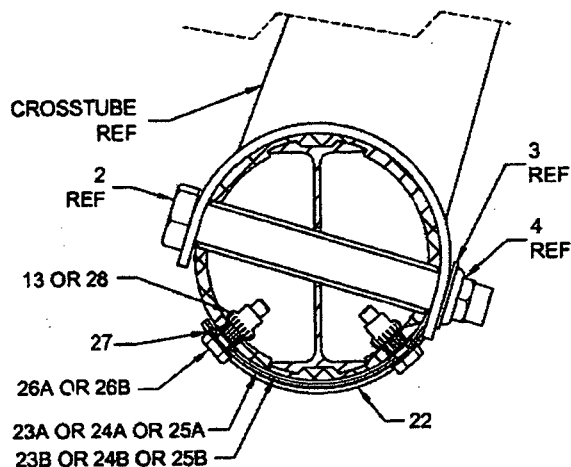
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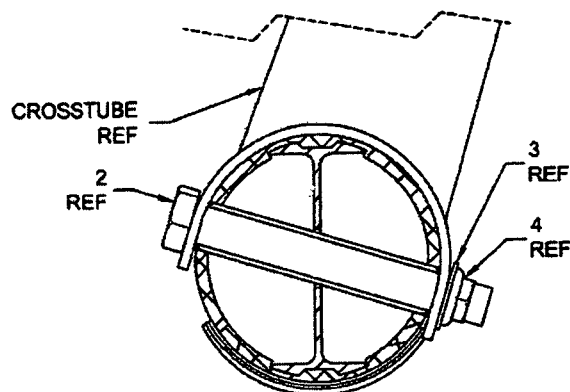
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

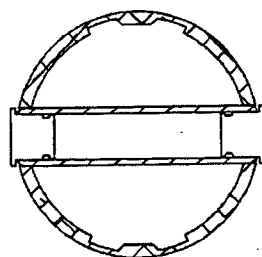
**NOTE:** Date & initial all entries



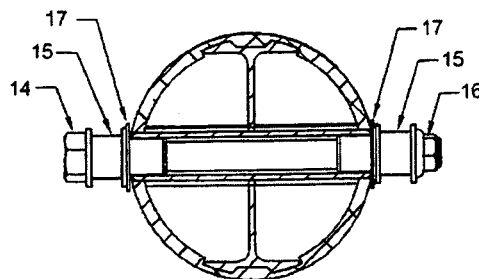
**SECTION A-A**  
(D350-636-011/-012/-013/-014 SKIDTUBES  
AT CHG 003 ONLY)



**SECTION P-P**  
(D350-636-011/-012/-013/-014 SKIDTUBES  
AT CHG 004 OR SUBSEQUENT)



**SECTION B-B**  
(SECTION J-J, K-K, L-L AND M-M SIMILAR)  
8 PL PER SKIDTUBE



**SECTION C-C**  
4 PL PER SKIDTUBE

*u/b 43858*

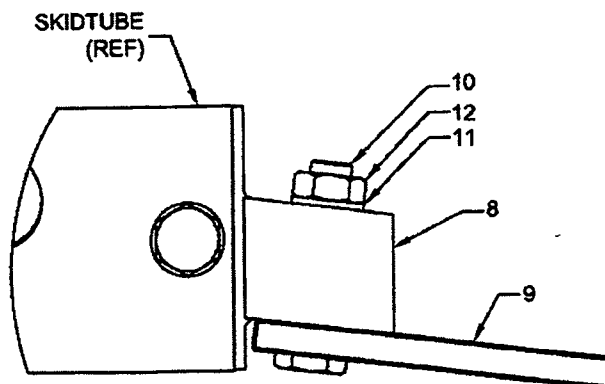
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

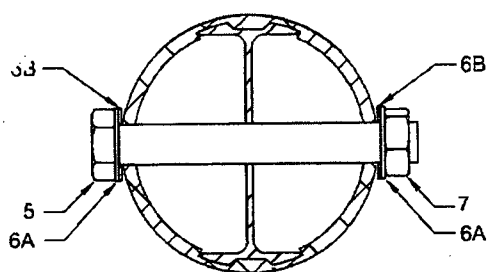
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

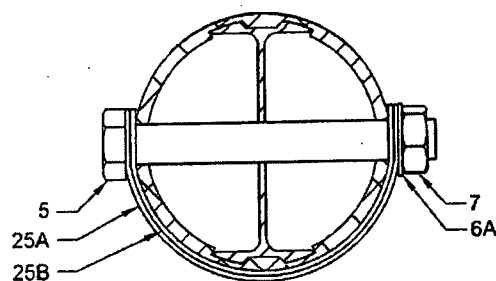
**NOTE:** Date & initial all entries



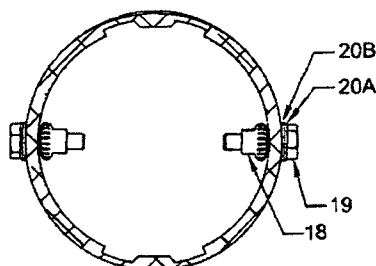
**DETAIL D**  
1 PL PER SKIDTUBE



**SECTION E-E**  
(D350-636-011/-012/-013/-014 SKIDTUBES  
AT CHG 003 ONLY)



**SECTION Q-Q**  
(D350-636-011/-012/-013/-014 SKIDTUBES  
AT CHG 004 OR SUBSEQUENT)



**SECTION F-F**  
2 PL PER SKIDTUBE

*w/o 43850*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



8

7

6

5

4

3

2

1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1			D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

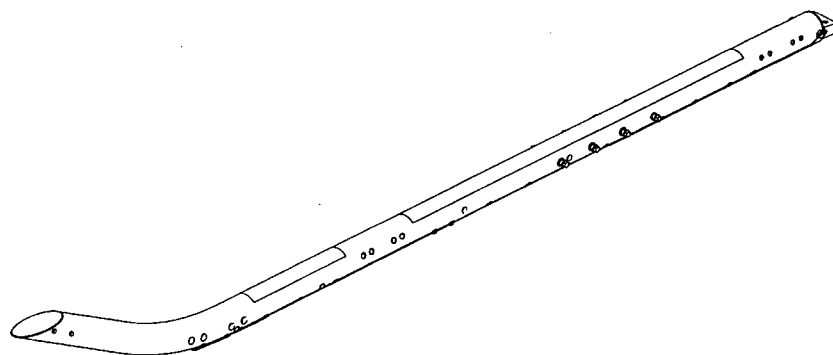
## GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:  
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ( $\phi 0.297$ ) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

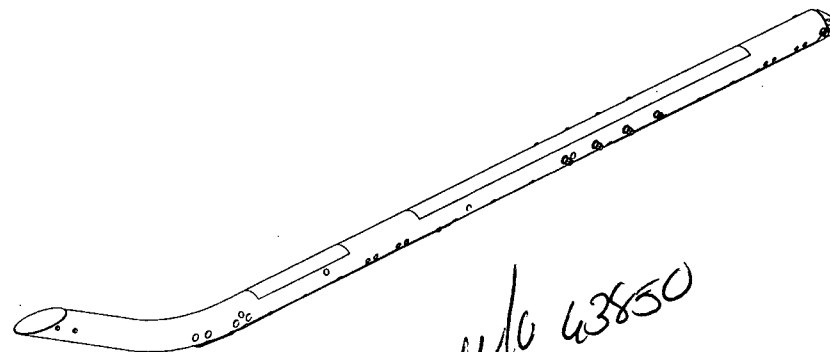
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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 63850  
8/10/18

RELEASED  
6/27/18

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS, ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515HBL; REMOVE D2741; QTY (2) AN960C816, REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	<u>RAH</u>		
CHECKED	<u>RAH</u>		
MFG. APPR.	<u>RAH</u>		
APPROVED	<u>RAH</u>		
DE APPR.	<u>RAH</u>		
DATE	08.07.16		
DART AEROSPACE USA, INC. PORT HADLOCK, WA			
DRAWING NO. D2750		REV. F SHEET 1 OF 11	
TITLE 350 SKIDTUBE ASSEMBLY		SCALE NTS	
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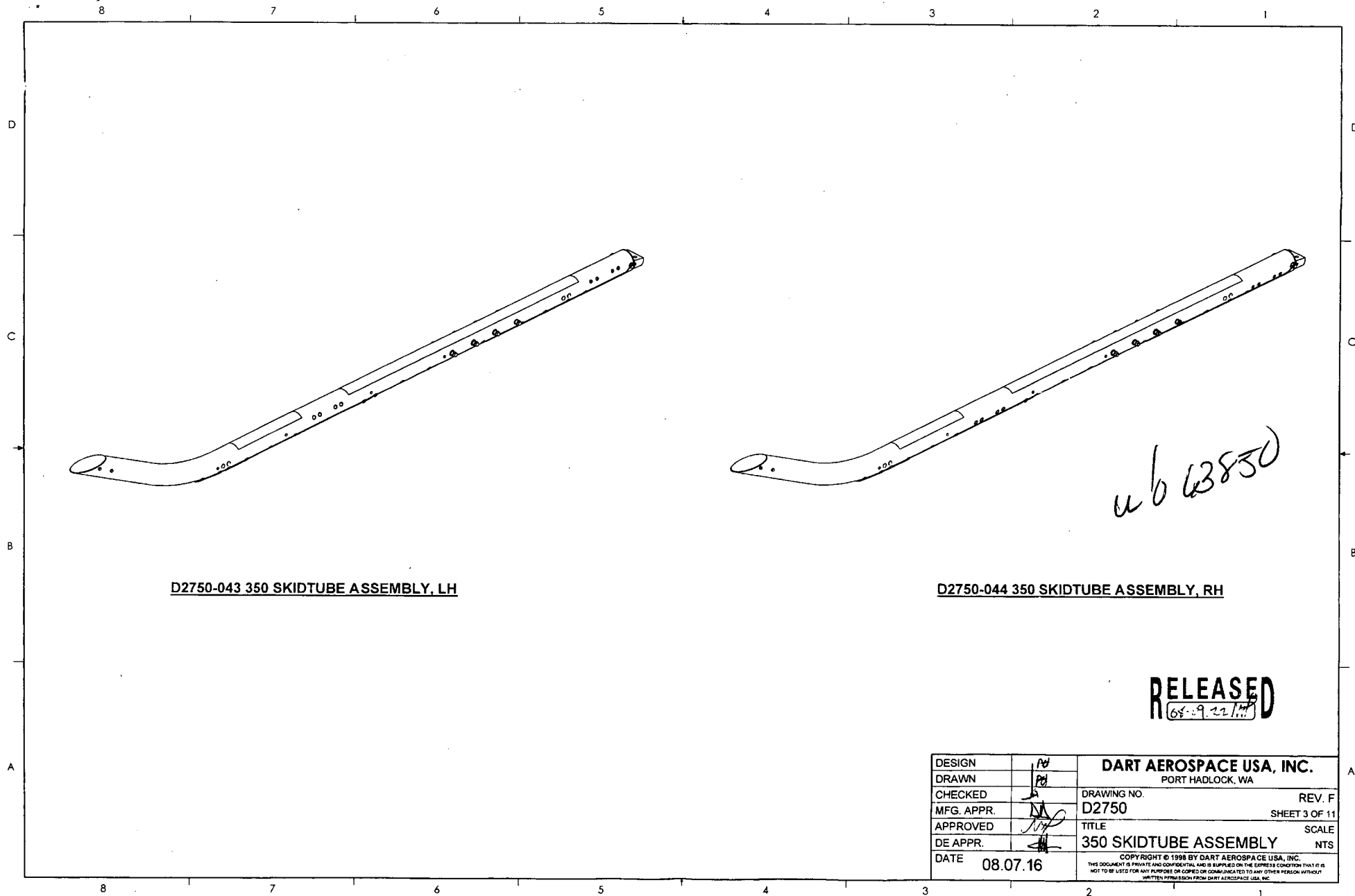
D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

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18 JAN 77

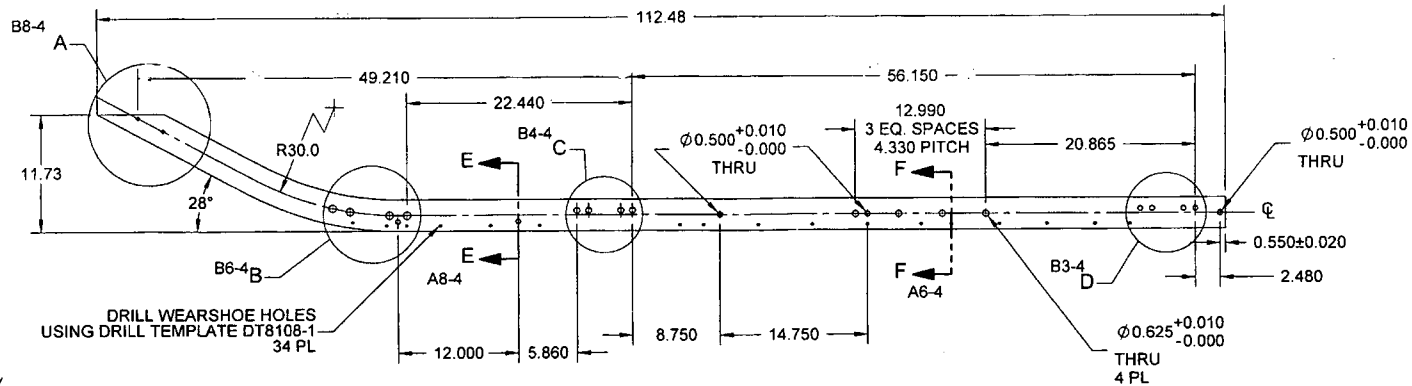
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DRAWN	AM	PORT HADLOCK, WA	
CHECKED	JA	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 2 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
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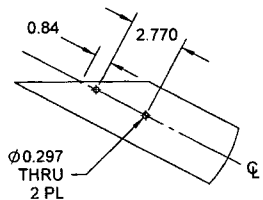
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68-9-22/100

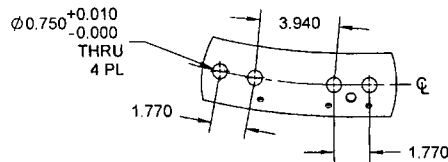
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CHECKED	PD	DRAWING NO.	REV. F
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APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
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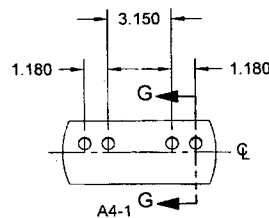
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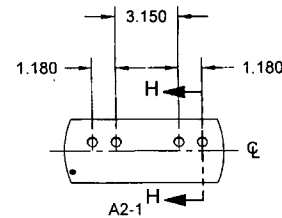
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**DETAIL B**  
SCALE 2X



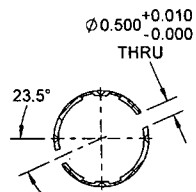
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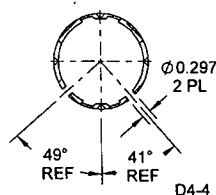
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SCALE 2X

*u/o 63830*

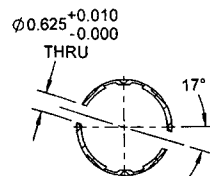
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68-04-22-118



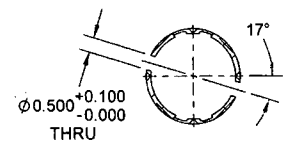
**SECTION E-E**  
SCALE 3X, 2 PL



**SECTION F-F**  
SCALE 3X, 17 PL

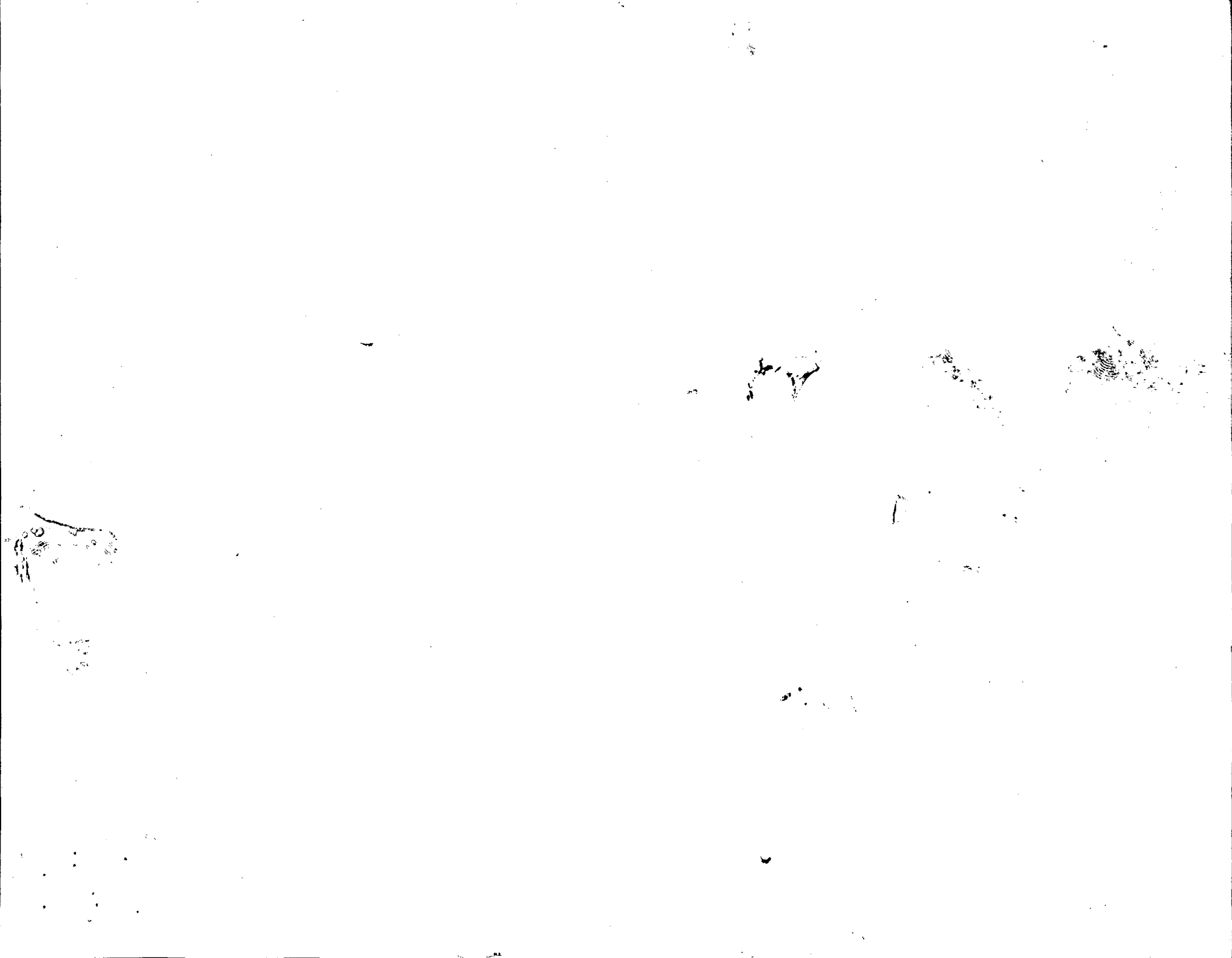


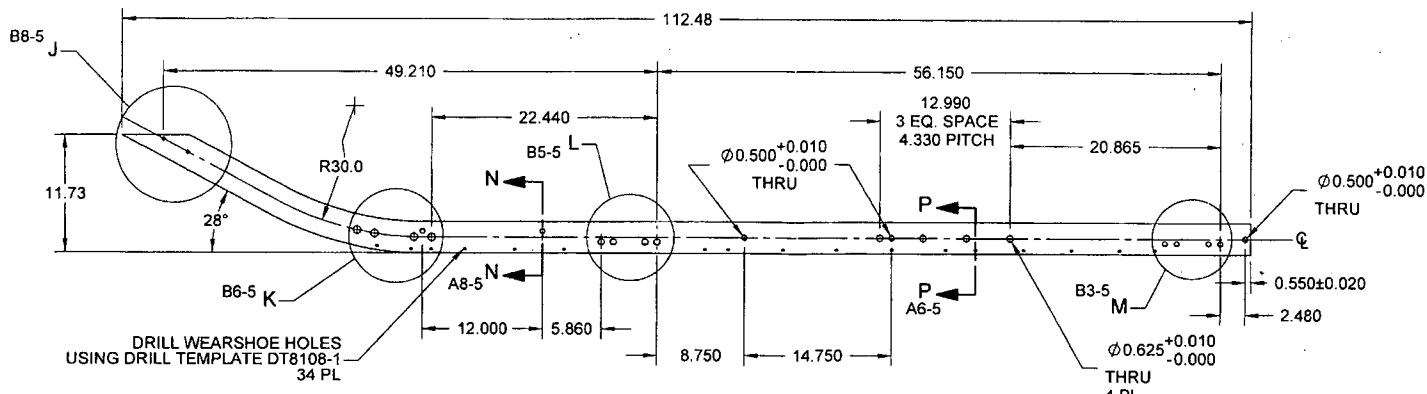
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SCALE 3X, 4 PL



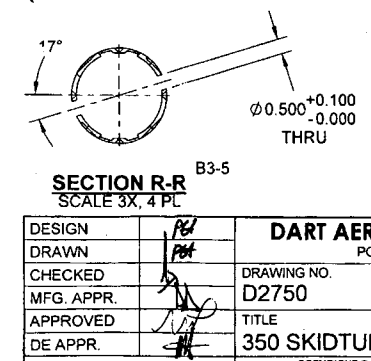
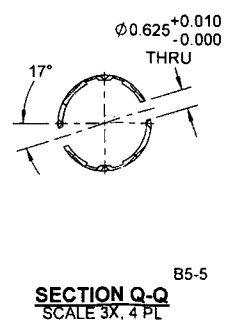
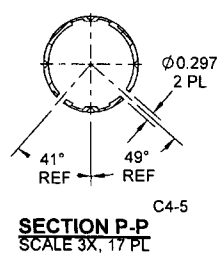
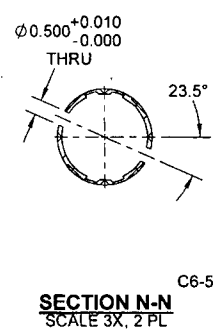
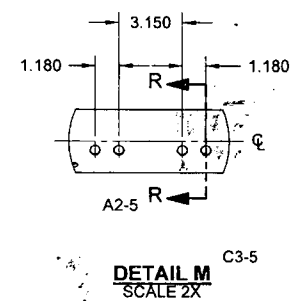
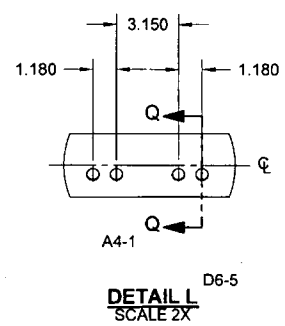
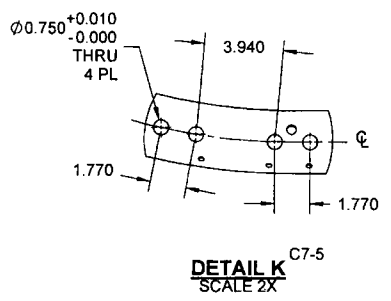
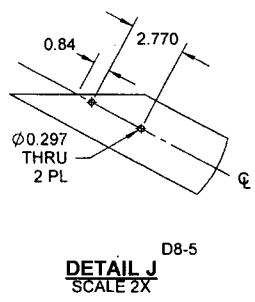
**SECTION H-H**  
SCALE 3X, 4 PL

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DRAWN	RU	PORT HADLOCK, WA	
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MFG. APPR.			SHEET 4 OF 11
APPROVED		TITLE	SCALE
DE APPR.		<b>350 SKIDTUBE ASSEMBLY</b>	NTS
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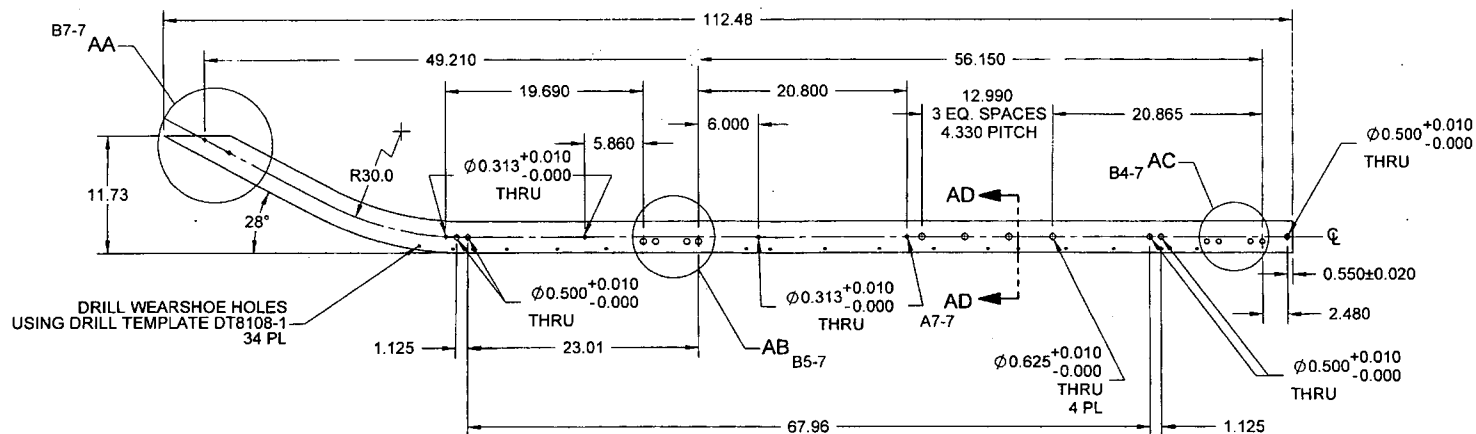
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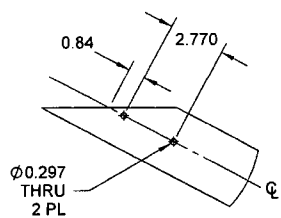
*210 63850*

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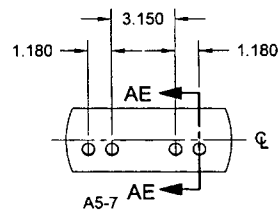
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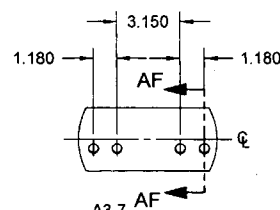
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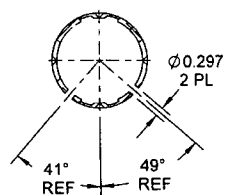
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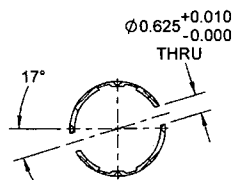
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SCALE 2X



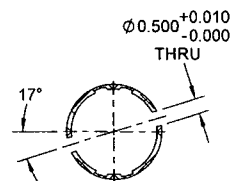
**DETAIL AC**  
SCALE 2X



**SECTION AD-AD**  
SCALE 3X, 17 PL



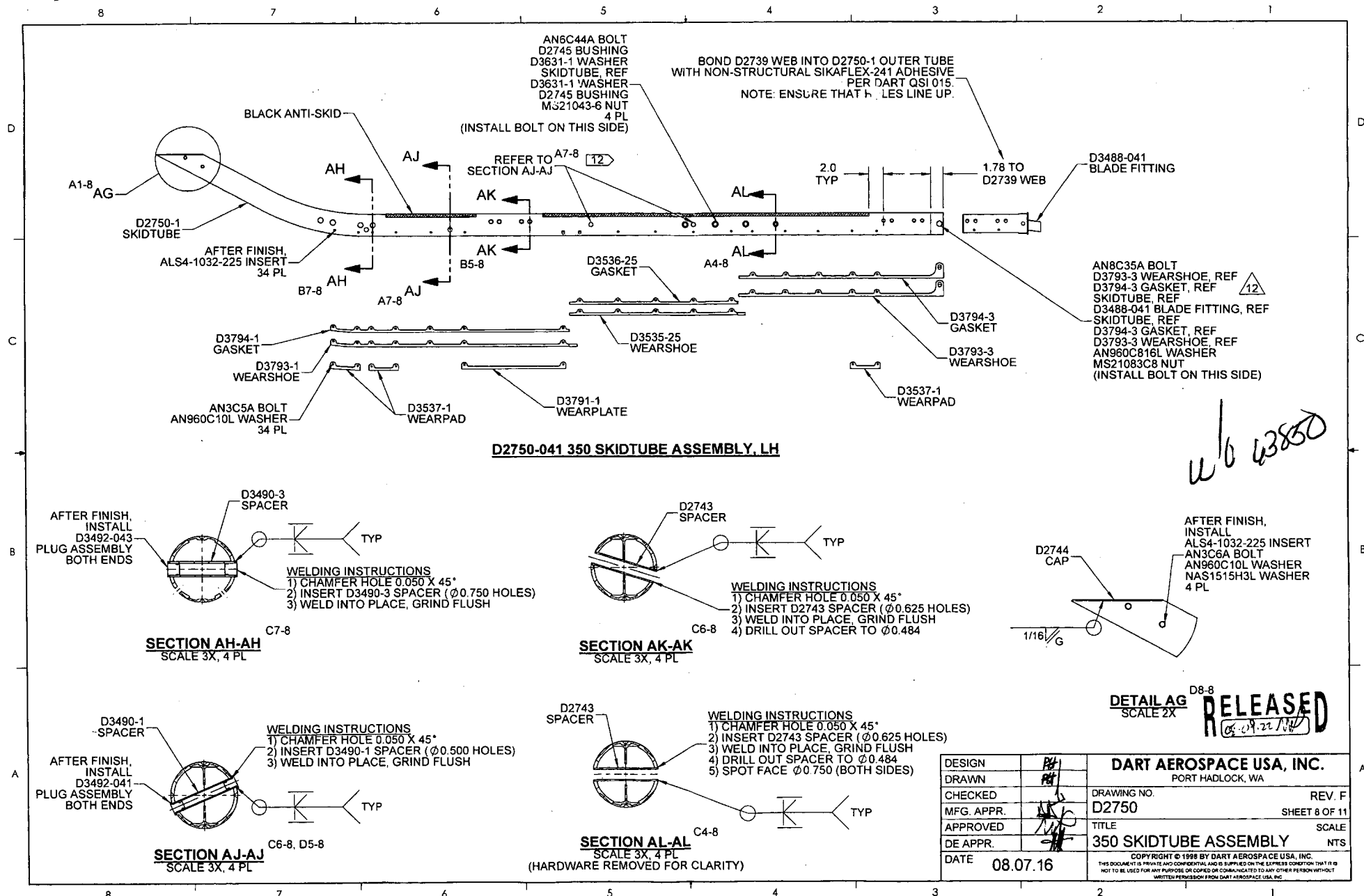
**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

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06-09-2010

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APPROVED	AK	TITLE	SCALE
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CHECKED	REV. F	DRAWING NO.	REV. F
MFG. APPR.	REV. F	D2750	SHEET 8 OF 11
APPROVED	REV. F	TITLE	SCALE
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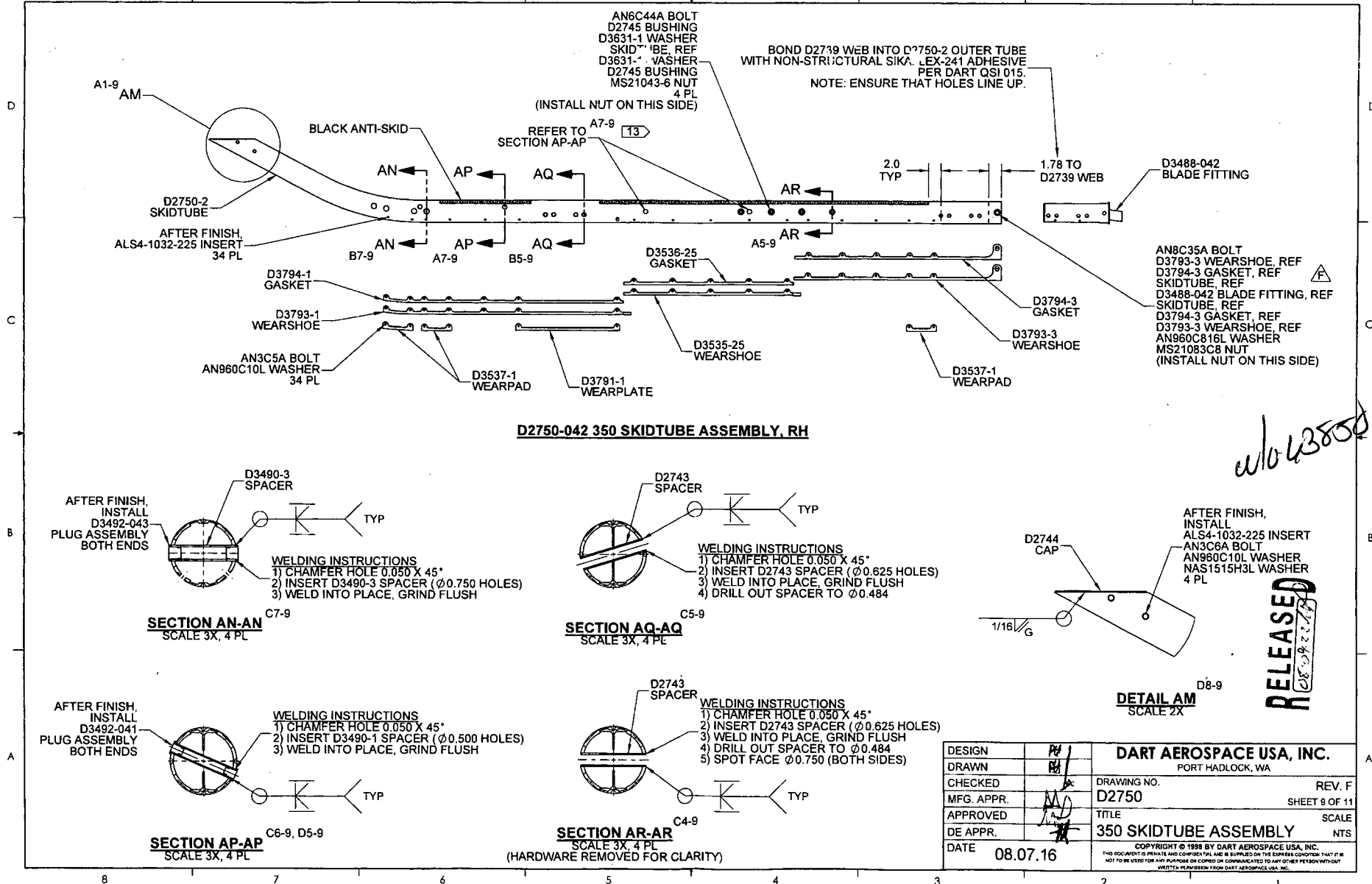
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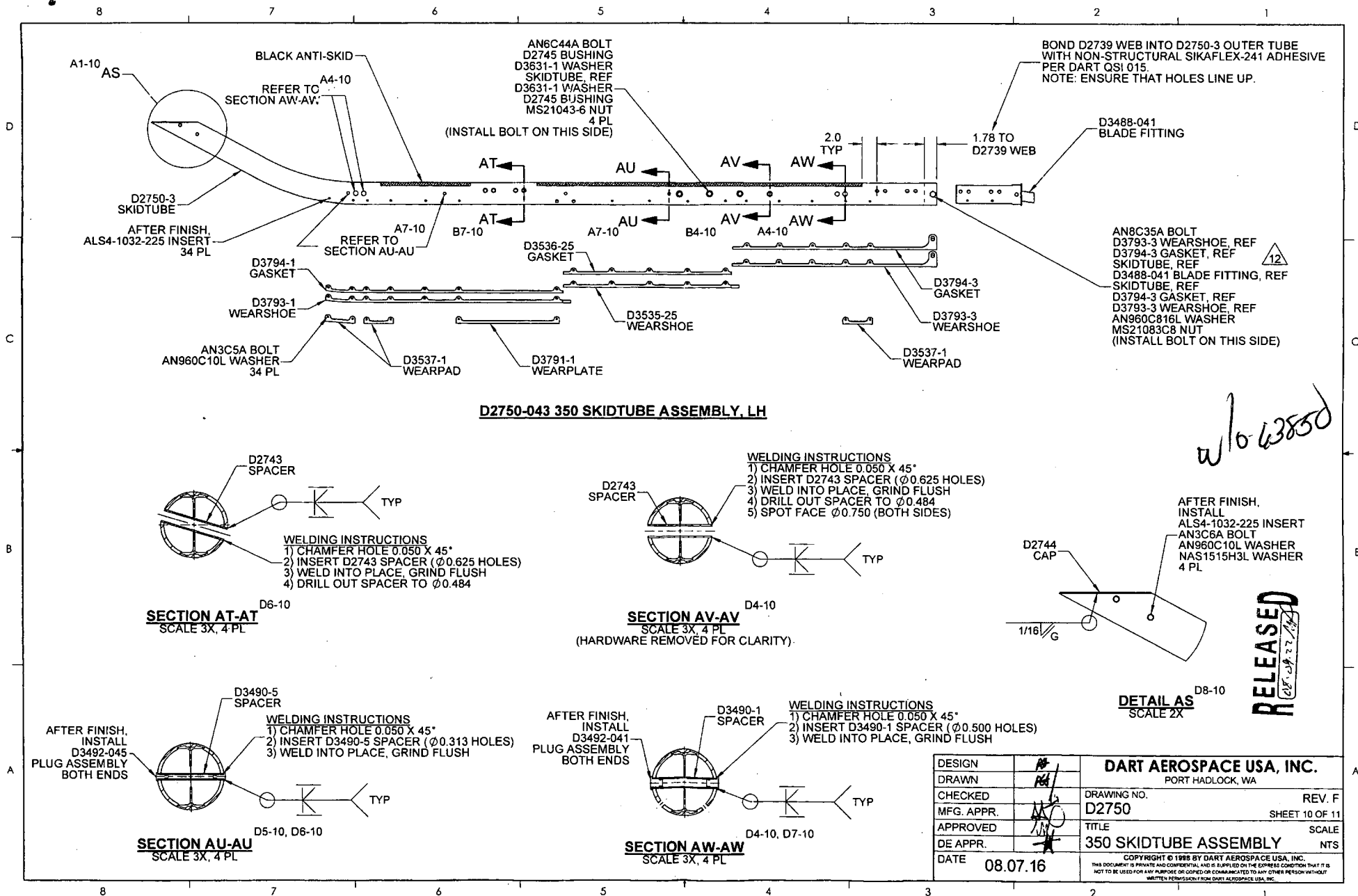
4

3

2

1









NO. 239

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 61946 61914  
Part number: D350.636.012  
Description: 350 skid  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier P.D. Doyle Date of Test Coupon 10.09.30  
Welder Barclay Elliott Date of Test Coupon 10.09.30

The above named individual is qualified in accordance with AWS D17.1.2001 to weld